

CURRICULUM VITAE

Dr. Kavya Bakka
Assistant Professor,
Department of Microbiology,
School of Life Sciences,
Central University of Tamil nadu,
Thiruvarur-610005
Tamil nadu, India
Email: kavyabakka@cutn.ac.in
Phone: 7995184132



ACADEMIC PROFILE

- 2018-19 Post Doctoral Fellow**
Institut for Medical Biochemistry and Microbiology
Uppsala University, Sweden
- 2016-18 Post Doctoral Fellow**
Central University of Tamil nadu, India
- 2011-15 Ph. D. in Mitochondrial Biology**
CECAD, Max-Planck Institute for Biology of Ageing,
University of Cologne, Germany
- 2009-11 Masters in Science**
National University of Singapore, Singapore
- 2007-08 Junior Research Fellow**
Centre for Cellular and Molecular Biology, Hyderabad, India
- 2005-07 Masters in Science**
University of Hyderabad Hyderabad, India
- 2003-05 Bachelors in Science**
Vishaka Degree College for Women
Andhra University, Visakhapatnam, India.

RESEARCH GRANTS

1. Principal Investigator in SERB-NPDF, 2016, India, Amount Sanctioned: Rs. 19, 20, 000
2. UGC-BSR Start up grant, 2021, India, Amount Sanctioned: Rs. 10, 00, 000
3. NASI-Science and Society Grant, 2021, India, Amount Sanctioned: Rs. 1, 60, 000

RESEARCH INTERESTS

Mitochondrial Biology
Plant Growth Promoting Rhizobacteria

TOP PUBLICATIONS

1. Challabathula D, Analin B, Mohanan A, **Bakka K**. (2022) Differential modulation of photosynthesis, ROS and antioxidant enzyme activities in stress-sensitive and-tolerant rice cultivars during salinity and drought upon restriction of COX and AOX pathways of mitochondrial oxidative electron transport. *Journal of Plant Physiology*, 268, 153583.
2. Analin B, Mohanan A, **Bakka K**, Challabathula D. (2020) Cytochrome oxidase and alternative oxidase pathways of mitochondrial electron transport chain are important for the photosynthetic performance of pea plants under salinity stress conditions. *Plant Physiology and Biochemistry*, 154,248-259.
3. König T, Tröder SE, **Bakka K**, Korwitz A, Richter-Dennerlein R, Lampe PA, Patron M, Mühlmeister M, Guerrero-Castillo S, Brandt U, Decker T, Lauria I, Paggio A, Rizzuto R, Rugarli EI, De Stefani D, Langer T. (2015) Regulation of MCU-dependent mitochondrial calcium influx by the *m*-AAA protease associated with neurodegeneration. *Molecular Cell*, 64: 148-162
4. **Bakka K***, Padmanabhan A*, Sevugan M, Naqvi NI, D'souza V, Tang X, Mishra M, Balasubramanian MK. (2011) IQGAP-related Rng2p organizes cortical nodes and ensures position of cell division in fission yeast. *Current Biology*, 21: 467-472 ***Both authors contributed equally**
5. Tang X, Huang J, Padmanabhan A, **Bakka K**, Bao Y, Tan BY, Cande WZ, Balasubramanian MK. (2010) Marker reconstitution mutagenesis: a simple and efficient reverse genetic approach. *Yeast*. 28: 205-212
6. Vardhan Reddy PV, Shiva Nageswara Rao SS, Pratibha MS, Sailaja B, **Kavya B**, Manorama RR, Singh SM, Radha Srinivas TN, Shivaji S. (2009) Bacterial Diversity and bioprospecting for cold-active enzymes from culturable bacteria associated with sediment from a melt water stream of Midtre Lovénbreen glacier, an Arctic glacier. *Research in Microbiology*. 160: 8 538-546
7. Srinivas TN, Nageswara Rao SS, Vishnu Vardhan Reddy P, Pratibha MS, Sailaja B, **Kavya B**, Hara Kishore K, Begum Z, Singh SM, Shivaji S. (2009) Bacterial diversity and bioprospecting for cold-active lipases amylases and proteases from culturable bacteria of kongsfjorden and Nyalesund, Svalbard, Arctic. *Current Microbiology*, 59: 537-547

BOOK CHAPTERS

1. Venugopalan V, Challabathula D, **Bakka K** (2023) Emerging Roles of Plant Growth Promoting Rhizobacteria in Salt Stress Alleviation: Applications in Sustainable Agriculture In Mathur, P., Kapoor, R., Roy, S. (eds) Rhizosphere Biology: Microbial Symbionts and Plant Health: Trends and Applications for Changing Climate Springer,Page Nos. 397-437
2. **Bakka K**, Gopika PV, Sreelakshmi H, Challabathula D (2022). Halotolerant Plant Growth Promoting Rhizobacteria: A Futuristic Direction to Salt Stress Tolerance. In: Roy, S., Mathur, P., Chakraborty, A.P., Saha, S.P. (eds) Plant Stress: Challenges and Management in the New Decade. Advances in Science, Technology & Innovation. Springer, Cham. 277-294 https://doi.org/10.1007/978-3-030-95365-2_17
3. **Bakka K**, Challabathula D (2020) Amelioration of salt stress tolerance in plants by plant growth promoting rhizobacteria: Insights from 'Omics' approaches. A. Varma et al. (eds.), Plant Microbe Symbiosis, Springer Nature.

ACHIEVEMENTS

1. SERB-NPDF grant, India 2016-18
2. Graduated with "**magna cum laude**" in Ph.D. from University of Cologne, Germany, 2015
3. NRW "**YOUNG SCIENTIST AWARD-2012**" from Ministry of Innovation, Science and Research for German state of North Rhine Westphalia, Germany, 2012.
4. Cologne Excellent in Ageing Research (CECAD) Fellowship, Germany, 2015.
5. Max Planck Institute for Biology of Ageing Fellowship, Germany, 2011-14.
6. Academic Proficiency Award for the academic years 2002-03, 2003-04 and 2004-05.
7. Merit award by Vishaka Degree College for achieving highest percentage in B.Sc.

COURSES ATTENDED

1. Refresher Course at University of Mysore, February, 2023.
2. Faculty Induction Program at University of Hyderabad, November, 2021.
3. Faculty Development Program, Measures to Mitigate Climate Change, CUTN, 2021.
4. Faculty Development Program, Measures to Mitigate Climate Change, CUTN, 2020.

PRESENTATIONS

1. Resource Person for eight sessions for “Health and Hygiene for Women in Rural Areas” under NASI-CUTN Outreach Program from November 2021 to October 2022.
2. Resource Person for six sessions for “Dispelling common scientific myths in children” under NASI-CUTN Outreach Program from November 2021 to October 2022.
3. Invited lecture titled “Multiplex CRISPR-Cas9 technology and its applications in developmental biology” Telangana Social Welfare Degree College for Women, Hyderabad, Telangana, 2021.
4. Invited lecture titled “Holistic Approaches in Biotechnology in Current Scenario” 12th and 13th March 2020, Department of Biotechnology, Telangana University, Nizamabad.
5. Invited lecture titled “Multiplex CRISPR-Cas9 technology” for Masters Program in Medical Research, Uppsala University, Sweden, 2018.
6. Presentation titled “Deciphering the role of heparin sulfate N-sulfation in embryonic development” at Department of Medical Biochemistry and Microbiology, Uppsala University, Sweden, 2018.
7. Presentation titled “Glycosaminoglycan structural analysis of single zebrafish embryos” at Gordon Research Conference, USA on Proteoglycans, 2018.
8. Presentation titled “Quality Control in Mitochondria” at SFB 635 6th Co-Worker Retreat, April 15-16, Wermelskirchen, Germany, 2015.
9. Presentation titled “IQGAP-related Rng2p Organizes Cortical Nodes and Ensures Position of Cell Division in Fission Yeast” and received **NRW YOUNG SCIENTIST AWARD 2012** at NRW Young Scientist Award ceremony, Dusseldorf, Germany, 2012.
10. Presentation titled “Functional characterization of Rng2p” and **HONORABLE MENTION AWARD** for poster presentation at “The 14th Biological Sciences Graduate Congress”, 10-12 December 2009, Chulalongkorn University, Bangkok, Thailand, 2009.

CONFERENCES/WORKSHOPS

1. Workshop titled “Physiological and Molecular Markers for Abiotic Stress Tolerance in Plants” 31st October 2022 to 4th November 2022, organized by Department of Botany, University of Calicut, Kerala, India.
2. Conference titled “International Conference on Physiological and Molecular Mechanisms for Abiotic Stress Tolerance in Plants” 26th – 28th October 2022, organized by Department of Botany, University of Calicut, Kerala, India.
3. 2018 Proteoglycans Gordon Research Conference, July 8-13, 2018, Proctor Academy, Andover, NH United States.
4. 2018 Proteoglycans Gordon Research Seminars, July 6-7, 2018, Proctor Academy, Andover, NH United States.
5. 2nd International FishMed Conference on Zebrafish Research, March 25-27, 2018, Warsaw, Poland
6. 4th Asia Oceania Conference on Photobiology, November 24-26, 2008, Banaras Hindu University, Varanasi, India
7. Cologne Spring Meeting 2015 “21st Century Genetics” at University of Cologne, 18-20 February, 2015, Germany
8. In-Vivo Research Facility Seminars: Harlan Symposium June 8th 2015, Cologne, Germany
9. International Symposium on "Hot Topics in Intracellular Communication" of the Collaborative Research Centre 635 in Cologne, Germany
10. International Workshop on Defining the Future – HIV/AIDS - Next 25 Years, December 18-20, 2006, Hyderabad, India

11. World Biodiversity Day – 22nd May, 2007 “Biodiversity workshop” University of Hyderabad, India
12. “EU-sponsored NanoBioSaccharides Dissemination Conference” September 18-19, 2008, University of Hyderabad, India
13. “Bio-Asia: The Global Bio Business Forum” February 15-17, 2007, Hyderabad, India

ACADEMIA/ADMINISTRATION

2023-Till Date – NAAC SSR Qualitative Committee, Central University of Tamilnadu
2021-Till Date – NAAC Criteria III Committee, Central University of Tamilnadu
2021-Till Date – Play School Committee, Central University of Tamilnadu
2022-Till Date – DST-FIST Project – Faculty Research Team Member, Department of Microbiology
2023-Till Date – M.Sc. Admissions Co-ordinator, Department of Microbiology
2021-Till Date – Ph.D. Admissions Co-ordinator, Department of Microbiology
2022-Till Date – Department Research Committee Member, Department of Microbiology
2022-Till Date – Department Admission Committee Member, Department of Microbiology
2022-Till Date – Department Board of Studies Member, Department of Microbiology
2022-Till Date – Co-ordinator for Department Alumni Members, Department of Microbiology
2022-Till Date – Co-ordinator for Department BSL II Facility, Department of Microbiology
2022-Till Date – Co-ordinator for Department Space, Department of Microbiology
2022-Till Date – Co-ordinator for Department Science day activities, Department of Microbiology
2020-Till Date – Editor, Department Newsletter, Department of Microbiology

TEACHING COURSES (M.Sc. and Ph.D.)

2019 –2020 Marine Microbiology, Bacteriology and Mycology, Techniques in Microbiology, Research Methodology
2020 –2021 General Microbiology, Environmental Microbiology, Cell and Molecular Biology, rDNA and protein technology, Bacteriology and Mycology, Agricultural Microbiology, Techniques in Microbiology, Research Methodology
2021-2022 General Microbiology, Environmental Microbiology, Cell and Molecular Biology, rDNA and protein technology, Bacteriology and Mycology, Agricultural Microbiology, Techniques in Microbiology, Research Methodology
2022-2023 Cell Biology, Bacteriology and Molecular Genetics, Enzymology and Protein Technology, Yeast Biology, Techniques in Microbiology, Research Methodology, Microbes in Health and Well Being

RESEARCH GUIDANCE

Ph.D Students – 2 (Ongoing)
M.Sc. Students – 5 (Completed)
B.Sc. Students – 1 (Completed)
Mentor for M.Sc. students – (17)
RAC Member – (4)

OUTREACH ACTIVITIES

Co-coordinator for NASI-CUTN Science and Society Activities 2021-2022

- Health and Hygiene for women in rural areas – 8 events
- Dispelling Scientific Myths in school children – 6 events

CONFERENCES/EVENTS ORGANIZED

2023 – Nerdnia – Organizing Secretary, Science Day event for Department of Microbiology, CUTN.

2020 – Science Day event for the Department of Microbiology, CUTN

2017 – Organizing Committee Member, 13th Conference on Vectors and Vector Borne Diseases, CUTN and NAVBD, India.

MEMBER FOR SCIENTIFIC BODIES

Society for Mitochondrial Research and Medicine – Lifetime Member since 2016

Biotechnology Society of India – Lifetime Member since 2016

EVALUATION ACTIVITIES

2020-Till date for Environmental Sustainability

CERTIFICATIONS

1. Certification course in Animal handling and Ethical laws, Uppsala University, Sweden (2018)
2. Certification course in Laboratory Safety and Handling of inflammable products, Uppsala University, India (2018)
3. Certification course in Radiation protection, Uppsala University, Sweden (2018)
4. Certification course in Professionalism in scientific presentations, University of Cologne, Germany (2014)
5. Certification course in Advanced Microscopy, Temasek Lifesciences Laboratories, Singapore (2011)
6. Vocational training in s, Visakhapatnam, India (2005)